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(54) Light-beam deflecting device with photonic crystal, optical switch using the same, and light-beam deflecting method

(57) A compact light-beam deflecting device with a photonic crystal (1) is provided, which has the capability of deflecting a light beam (5) incident on the photonic crystal by a controlled angle to output a transmitted light beam (B) having a desired direction from the photonic crystal. This light-beam deflecting device comprises the photonic crystal (5) designed to have a photonic band gap wavelength that is different from a wavelength of a light beam to be incident on the photonic crystal, and a deflection controller (4) for applying an amount of energy to the photonic crystal to deflect the light beam (5) incident on a side of the photonic crystal (1), and to provide a transmitted light beam (B), which forms the desired angle with respect to the light beam, from the other side of the photonic crystal.

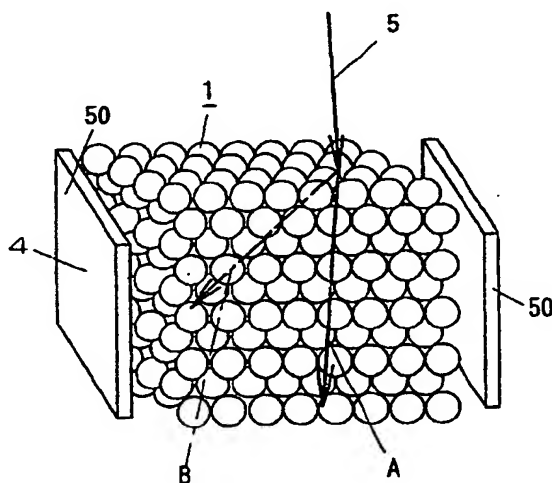


FIG. 1B

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EUROPEAN SEARCH REPORT

Application Number
EP 02 00 6720

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Y	FIGOTIN A ET AL: "TUNABLE PHOTONIC CRYSTALS" MATERIALS RESEARCH SOCIETY SYMPOSIUM PROCEEDINGS, MATERIALS RESEARCH SOCIETY, PITTSBURG, PA, US, vol. 603, 30 November 1999 (1999-11-30), pages 195-200, XP001034373 ISSN: 0272-9172 * the whole document *	1-3, 6-10, 13-15	TECHNICAL FIELDS SEARCHED (IntCl.7) G02F G02B
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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 7 November 2003	Examiner Wahl, M
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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Place of search MUNICH		Date of completion of the search 7 November 2003	Examiner Wahl, M
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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